

ABSTRACT

A proton conductor comprises a base material, an acidic substance and a basic substance, wherein the acidic substance has protons; at least part of the protons are dissociated by the basic substance; and at least one of the acidic and basic substances is immobilized on a surface of the base material. At least part of the acidic substance and/or at least part of the basic substance may be a polymer. A powder or a porous body having pores or through-holes can be used as the base material. An organic compound having a hydrophilic part and a hydrophobic part in the molecule can be used as the at least one of the acidic and basic substances.